THE FARMING WORLD.

GRAFTING WILD FRUITS.

A Fine Field for the Exercise of Horticultural Skill.

Persons living in sections where wild fruit trees and vines yet continue to grow, undisturbed, in native vigor, can find exercise for their horticultural skill and love of experiment, in grafting these wild stocks with improved native and foreign varieties. Several years ago my attention was attracted to this subject by an article which appeared in the report of our State Horticultural society, from a correspondent in Illinois, who said: "A farmer living near here, having a woods pasture partly covered with wild crab and red haw trees, some 15 or 20 years ago, grafted the crab to apple, and the red haw to pear. He grafted those limbs beyond the reach of animals grazing in the pasture, and now he has apples and pears in abundance every fruit year."

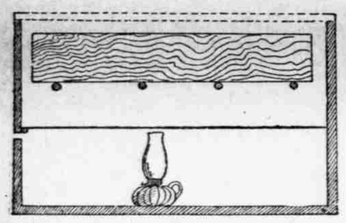
During the past year the writer made a number of experiments in grafting the wild fruits in this locality; begun grafting the haw to the pear during pleasant days in February, and continued after intervals till the 10th of April. Those grafts set during February did much better than those of later dates. Scions were taken from Bartlett, Idaho, Duchess and Kieffer trees A much larger per cent. of the Kieffer grafts grew than those of other varieties, and the growth was more vigorous. We also set grafts of the pear into the white thorn; but failed to get any to live. In grafting the haw, it is best to select young, vigorous trees, and locate the grafts well in the top of the tree, so they will get the sunlight and have room to develop. In the early days of March we grafted some wild plum trees with the Japanese varieties Abundance and Burbank. The growth made by these scions was very vigorous, and they are now full of fruit buds.

In grafting, use an abundance of grafting wax, and cover with a cotton cloth boiled in oil or wax. Aside from the curiosities which can be produced on lawns or in waste places, by transforming these wild stocks, by grafting to improved varieties, some persons may be so situated as to make it a source of considerable profit.—S. H. Van Trump, in Journal of Agriculture.

PROPAGATING BENCH.

How to Start Plants Successfully in the House in Spring.

Almost every one tries to start a few plants early in the spring in the house, but has no end of trouble carrying them from window to stove shelf at night to keep them from chilling. The illustration shows a way to avoid all this trouble, and at the same time to grow more and better plants. A box of any size desired, and about two feet in height, is arranged according to the



WINDOW PROPAGATING BENCH.

design shown herewith. An opening is cut in one side at the bottom so that a hand lamp can be set in. This opening should have a hinged door. Above the lamp is stretched a piece of sheet iron, while some distance above this iron rods run from side to side across the box, for the support of smaller boxes of earth in which seeds are sown. A tight wooden cover can be made to shut down over the whole, to be opened each morning. A small opening is made in the top of the lamp chamber and another in the bottom, to admit air and let out any gas from the lamp. The sheet iron should fit so closely that fumes from the lamp may not get up to the plant boxes. A very small flame will keep everything very warm at night. Set the box before the sunniest kitchen window.—Orange Judd Farmer.

Sheep in the Orchard.

I have five acres that are partially covered with apple trees, some of which are quite old. For several years no crops have been raised on the land. For a few weeks in the year it is used for pasturing cows, and during a portion of the summer and fall sheep are given the run of the field. They lie under the shade of the trees a greater part of the day, where a good share of their droppings is left, which seem to be a great benefit to the trees, and all wormy and defective apples are quickly eaten as soon as they fall. I now raise more and much better fruit, and believe it will pay any farmer who has an apple orchard to keep sheep.—John Jackson, in Michigan Fruit rower.

Germinating Nuts in Spring.

The success of germinating nuts in the spring depends upon the condition of ripeness and the method of keeping them during the winter. Nuts should not allowed to become too dry before burying in sand. When gathered too early the kernels shrivel up and have but little germinating power, hence they should not be gathered until the kernel is full and plump. If there is any danger of mice getting into the boxes where they are buried during the winter, wire netting should be nailed over them.—Wsetern Plowman.

Advantages of Butter Making.

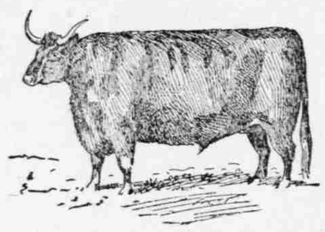
Butter is a condensed product. Nothing can be made or grown on the farm which brings as much per pound. Farms remote from the market and communities far from a railroad can send butter from the farm or creamery with the least possible expense. The dairyman can condense tons of fodder and crops grown on the farm into dairy products and send them to market in compact and portable form.—Dakota Field and Farm.

BLACK WELSH CATTLE.

A Breed That Should Be Better Known in This Country.

The principality of Wales has two indigenous breeds of black cattle, of which at least one fills an important place in Great Britain, though it is unknown on this side of the Atlantic. The black cattle of Wales were originally all of one breed, and in fact are supposed to descend from the species Bos primogenius, which is now represented by the wild white cattle of Chillingham, Eng., and the so-called Podolian race of the continent. One singular fact that justifies this opinion is that among the black Welsh cattle is seen an occasional white calf, black on the muzzle and inside of the ears, like the cattle of Chillingham.

The original black cattle of Wales were coarse and slow of maturity, but they possessed such hardiness, dairy qualities and special adaptation to their environments that no effort at improve-



PRIZE BLACK WELSH STEER.

ment was made until within a few recent years. The first herd book was published in 1874, embracing both the so-called Castle Martin cattle of South Wales and the Anglesea of North Wales. The former are coarse boned, with flat sides and deficient beef qualities, but good milkers. The Anglesea cattle, or "runts," as they are called, have been so greatly improved that they are now recognized as a distinct breed with a separate herd book of which the first volume was published in 1883. The improvement in these cattle is the result of careful selection and breeding, to which they have responded rapidly. The large bone, slow growth and light quarters have been bred out, and a fine, blocky animal is the result, like that shown in the illustration above, which is a lifelike reproduction of a Welsh steer that won the prize breed cup in the Smithfield club cattle show, London. His weight was 2,464 pounds. Fat cows of the same breed have attained weights of 1,800 to 2,400 pounds. The cows are deep and long continuing milkers, producing an average yield of from 12 to 14 pounds daily at the flush. The milk is fairly rich in butter fats. With their extreme hardiness, early maturity, good beef and dairy qualities, the North Welsh cattle are rapidly growing in favor among British feeders and breeders and seem worthy of attention in this country.—Farm and Home.

GOOD BUTTER SALT.

Dairymen Should Exercise Great Care in Its Selection.

Hunter Nicholson says in the Jersey Bulletin that there is almost as much difference in the quality of salt as in the quality of butter. Good butter salt is fine-grained, bright-colored, clean, pure and free of foreign odors. It must be fine-grained in order to mix readily and dissolve regularly and quickly through the butter; bright-colored, showing that it is well crystallized; clean, that is, free from foreign substances; and free from bad smells, which salt is very ready to absorb. Salt, like everything else sold, is likely to be adulterated. Baryta is most commonly used. A simple and trustworthy test of salt may be made by dissolving a small quantity in clear, hot water. This will bring out any bad flavor and disclose the presence of any foreign substance. Pure salt will make a clear brine and deposit no sediment. If the brine smells, is cloudy or colored, or leaves a sediment, do not use the salt for butter. There are a number of excellent brands of salt, prepared expressly for the dairy. If you can find out where they are sold, get a lot; be careful, however, not to keep it near any ill-odored substance, as it absorbs odors very readily, and, once absorbed, the salt is ruined beyond remedy. Besides the American salts, there are one or more foreign brands of excellent reputation.

Poor Calves Are Expensive.

If the calf is not a good one it would be better to knock it in the head and feed to the chickens, rather than raise it for the dairy. It does not cost five cents more to raise a good calf than it does a poor one, and the cow that will make 300 pounds of butter a year has eaten no more up to the time she drops her calf than the one that will make only 150. There is not a fortune in the dairy business in any event, but if we raise calves from poor cows from which to make up our future herd, there is a loss. — Rural World.

Sanitary Food for Cows.

If the cow has a tendency to be constipated, increase the proportion of oil meal in her ration. If her bowels become too loose, decrease the oil meal and increase the bran. If the cows have a tendency to put on too much flesh, decrease the cornmeal or discard it altogether. If she gets too thin, give her more cornmeal and less of the other foods. If straw and corn fodder are high, limit the feed to eight or ten pounds a day. If these rough foods are cheap, give 20 to 25 pounds a day to each cow and use what is uneaten for bedding.

Growing Berries for Market.

Good gardens and poor farms never keep company long. The growing of berries for family use is easily done. The growing of berries largely and selling them in good market require considerable skill and a special business tact. Only those who have good location, good market and a taste for the business should attempt it. Many small farmers so situated are making a success by commencing moderately and increasing acreage from season to season as experience warrants.

ELECTRICAL SCIENCE.

The Mystery of Phosphorescence Is Gradually Getting Cleared Up.

Bit by bit the mystery which surrounds the subject of the emission of light by phosphorescent substances is being unraveled. Uncanny stories of corpse lights and will-o'-the-wisps may continue to furnish food for the folklorist, and the fabled lamp of Aladdin will flourish forever in story. Science, when she dissipates a mystery, always ends by leaving the heart of the fable untouched. Nevertheless she does explore the facts that lie at the base of romance, and sometimes deals cruelly with them. Of the out-of-the-way corners of science none has been more tempting than that which is concerned with the strange property of giving out light without heat. To the alchemists are due the beginnings of rel discovery. Did not Krafft evolve from a hideous brew of organic matter the material afterward isolated as the chemical element, phosphorus? Its slow oxidation in moist air produces the pale gleam familiar to every schoolboy as belonging to lucifer matches.

Did not an obscure shoemaker of Bologna discover that by heating in a furnace, mixed with a little flour meal, a certain powdered spar from Monte Paterno, there was yielded a chalky powder having the property of shining in the dark after having been exposed to sunlight? Here was a prime mystery. No combustion, no waste of substance—in short, a mere bottling up of daylight, to emit it again with a feeble, night-long gleam when all around was dark. To the famous phosphorus of Bologna succeeded the more brilliant phosphorus of John Canton, concocted of oyster shells calcined with charcoal or meal in a close crucible. And the phosphorus of Canton is in our day superseded by luminous paint, used for clock faces and matchbox tops, that need to be visible in the blackest night. Science tells us that, after all, these are only sulphides of the alkaline earths; but, be that so, those that shine best are never pure sulphides.

Closely akin to phosphorescence is the property of fluorescence, the nature of which, though some of the facts were known to Goethe, to Brewster and to Herschel, was first explained by Sir George Stokes. A chip of horse chestnut bark, a crystal of quinine or a grain of the dye stuff eosin is dropped into water—acidulated, it may be, to hasten solution—and behold the liquid exhibits on the surface exposed to light a beautiful coloring, green, blue or orange as the case may be. That a liquid should possess a surface color where the light first strikes it, and that color be quite different from the color of the liquid itself, as seen by transmitted light, is a fact that fascinates by its paradoxical nature. Why should the green liquid made by macerating young green leaves in alcohol shine with a deep red color on its surface? Fluorspar—the "bluejohn" of the miners—exhibits a similar possession; for its surface color is different from the tint of the mineral.

Then followed the discovery that these waves which excite fluorescence as above described, and which are the very waves that are most active photographically, are also the waves that are most active in producing phosphorescence in the luminous paints. Here was afforded a very broad hint that both fluorescence and phosphorescence might be, like photographic actions, chemical phenomena in their essence. Then the patient Becquerel, using instrumental methods for observing substances in the dark, after they had been exposed to light, and especially to ultra-violet waves for a brief fraction of a second, showed that phosphorescence, so far from being a rare property, is possessed by innumerable kinds of stuffs. Chalk, porcelain, glass of various sorts, and rubies, shine for a 20th of a second or so. Some artificial chemical crystals, notably the green compounds of uranium, shine for but 1-100th of a second or less. Regarded from the time standpoint, the difference between phosphorescence and fluorescence is a mere difference in degree; the one is a persistent, the other a transient, transformation of the waves. On the top of these discoveries of a generation ago came the observations, notably those of Crookes, that fluorescence and phosphorescence are stimulated by electric discharges in vacuo much more brilliantly than by even the brightest sunlight. The phosphorescence excited by the discharge from the cathode or negative pole in the most attenuated vacuo possesses many striking and brilliant features.

Lastly come the memorable researches of Lenard and of Roentgen, who have found in the emanations that proceed from properly exhausted vacuum tubes, when electrically stimulated, rays that will penetrate paper, wood, flesh, and even opaque sheets of aluminium, and will, nevertheless, make their presence known by causing fluorescence and by their photographic action. Roentgen's world-wide discovery of the present year seems almost like an inverse species of fluorescence—a transmutation from the lower to the higher order of waves. And, indeed, H. Becquerel has shown that the highly fluorescent compounds will, after exposure to light, give off for many hours visible waves which closely resemble Roentgen's rays in their power of penetration through aluminum and other opaque materials and in their photographic action. So to the phenomena of phosphorescence and fluorescence we have now a hyperphosphorescence to record. And if Wiedemann and his collaborators have half solved the mystery of phosphorescence by showing that it is due to a sort of limited chemical decomposition of molecules under the influence of electric or luminous simulation, the mystery is certainly no less bewildering than before; the explanation is itself no less a mystery, needing in turn to be explained.—Philadelphia Telegraph.

BLOOMERS AND PETS.

Countess in New York Who Is Conspicuous Aside from Her Title.

Is Traveling with Her Husband to Australia—Strange Party Applies for Accommodation at a Hotel—Quarters Secured for Their Menagerie.

A small, scantily-bewhiskered man, accompanied by a tall, blond young woman, are registered at the Hotel Martin, New York city, as Reginald P. Brook and Countess Gwendoline Brook, of London. The hotel attaches paid no attention to Mr. Brook, but they threw up their hands when they saw the countess. She was attired in light brown bloomers, brown leggings, a jaunty brown jacket, a white sweater and a Tam O'Shanter cap. The bloomers were equipped with pockets, and the "countess" wore her hands in the pockets. On her fingers she wore a dozen rings, and diamond pins in the shape of coronets decorated her cap, and the front of her sweater.

When Mr. Brook had registered he told Landlord Martin that he desired accommodations for the pets of the countess.

"How many animals have you?" queried Martin.

"The countess," rejoined Mr. Brook, "has a monkey, an ape, a black Chinese bear—very rare, by the way, the only one in the United States—a tiger cat, a tame house cat, a trained lemur, a trained coatimondi, better known as the anteater; a Madagascar dog, a Danish boar hound, one grown St. Bernard dog, and three St. Bernard puppies."

All these interesting beasts, with their owners, had come here on a French liner from Marseilles. The landlord didn't think he had rooms suitable for the pets, so a local wild beast dealer was called in. He could lodge the beasts, he said, and this settled, the guests started out to see New York's streets. Crowds of small boys soon gathered in their train, commenting audibly upon the countess' peculiar costume. The countess afterward explained that she is the victim of the bloomer and animal fads. Incidentally she likes to investigate life as it really is in the large centers of population.

"You see," explained Mr. Brook, "we are on our way to Australia, and expect to stop in Texas to procure a small grizzly bear."

MAGICIAN ASKS HANNA'S HELP.

Amusing Incident in the Theater of Which Mark Is the Owner.

Chevalier was accorded a hearty reception at the opera house in Cleveland the other night, and incidentally Marcus A. Hanna came to the surface on a wave of popular clamor, and in his own theater at that. The unlooked-for outburst caused the chairman of the national republican committee to blush like a maiden and become decidedly uneasy, while the members of his box party, the occupants of the other boxes and the large audience were either cheering for or sympathizing with him.

It all happened this way: Chevalier has in his company Charles Bertram, the "English magical entertainer." Bertram looks for all the world like the prince of Wales. He performed a number of tricks, something like the ones Gus Hartz started out in life with. He got to a point where he needed a witness on the stage, and, as all magicians do, wandered down into the orchestra trying to induce some one to go on the stage.

Then some one, evidently enjoying the humorous, loudly suggested Mark Hanna. There was a sudden burst of applause that was repeated time and again. Even James H. Hoyt burst his white "kids" in his efforts to get Marcus on the stage. Bertram had undoubtedly heard of Hanna, but it was some time before he realized that it was that great man who was in the audience. Then he located Marcus and urged in vain. Things quieted down, until a boy in the gallery broke out with:

"What's the matter with Mark Hanna?"

Then there was a parting volley and the performance went on. Bertram got a member of the company to help him and the excitement was at an end.

THE MARKETS.

		CINCINNATI. Jan. 21.	
LIVE STOCK—Cattle, common	$ 2 50	@	3 00
Select butchers	4 00	@	4 35
CALVES—Fair to good light	4 50	@	5 50
HOGS—Common	2 75	@	3 20
Mixed packers	3 25	@	3 40
Light shippers	3 10	@	3 25
SHEEP—Choice	3 0	@	3 75
LAMBS—Good to choice	4 40	@	4 85
FLOUR—Winter family	3 60	@	3 90
GRAIN—Wheat—No. 2 red		@	9½
No. 3 red		@	88
Corn—No. 2 mixed		@	22½
Oats—No. 2		@	19½
Rye—No. 2		@	36
HAY—Prime to choice	10 75	@	11 00
PROVISIONS—Mess Pork		@	9 12½
Lard—Prime steam		@	3 82½
BUTTER—Choice dairy	8	@	9
Prime to choice creamery		@	21½
APPLES—Per bbl	1 50	@	1 75
POTATOES—Per bbl	90	@	1 10
NEW YORK.			
FLOUR—Winter patent	4 90	@	5 15
GRAIN—Wheat—No. 1 north'n		@	96½
No. 2 red		@	89¼
CORN—No. 2 mixed		@	28¾
OATS—Mixed		@	22¼
PORK—New mess	8 25	@	8 75
LARD—Western		@	4 30
CHICAGO.			
FLOUR—Winter patents	4 25	@	4 60
GRAIN—Wheat—No. 2 red	88¼	@	89¼
No. 2 Chicago spring	77¾	@	77⅞
CORN—No. 2	22½	@	22⅝
OATS—No. 2		@	16¼
PORK—Mess	7 87½	@	7 90
LARD—Steam	3 95	@	3 97½
BALTIMORE.			
FLOUR—Family	4 50	@	4 85
GRAIN—Wheat—No. 2		@	90¾
Corn—Mixed	26½	@	27½
Oats—Mixed	24	@	25
LARD—Refined		@	11 00
PORK—Mess		@	16 85
CATTLE—First quality	4 00	@	4 35
HOGS—Western	3 75	@	3 90
INDIANAPOLIS.			
GRAIN—Wheat—No. 2		@	88
Corn—No. 2 mixed		@	20½
Oats—No. 2 mixed		@	18
LOUISVILLE.			
FLOUR—Winter patent	3 75	@	4 00
GRAIN—Wheat—No. 2 red	91	@	92
Corn—Mixed		@	22½
Oats—Mixed		@	20½
PORK—Mess		@	8 00
LARD—Steam		@	5 00

A Step Forward in Railroad Advertising.

One of the most elaborate and successful moves in the way of advertising transportation lines that has been seen recently, is that of the Queen & Crescent in the January issue of the Review of Reviews. While it appears in the advertising pages of that magazine, it is not so much an advertisement as it is an article of unusual interest concerning the equipment of tracks and trains on the modern line of railway. It is a revelation to most people to know that such a line exists south of the Ohio River. The block system, the electric equipment such as track signals, locomotive headlights, crossing gongs, all go to provide for the swift movement of trains and is found here. The track is of heavy steel and the ballast of crushed stone and over this roadbed passenger trains of the most luxurious pattern hurry to and fro on schedules which each year are made a little shorter.

No WONDER that the old folks stand
A troop of chiding mockers.
When little boys wear trousers and
Grown men wear knickerbockers.
—Washington Star.

In Palace Sleeping Cars From Lake Michigan to the Potomac.

A new line of Pullman sleepers between Chicago, Washington, D. C., and Baltimore, via the "Queen City." Commencing January 24th the C. H. & D. Ry., and Monon Route, in connection with the B. & O. and B. & O. S. W. Railways, will operate a line of Pullman sleepers between Chicago and Baltimore, via Cincinnati and Washington City. The schedule will be as follows: Leave Chicago 2.45 a. m., Indianapolis 7:55 a.m., Cincinnati 12:05 n.n. Arrive Washington, D C., 6:47 a.m., Baltimore 7:55 a. m. Returning the sleeper will leave Baltimore 11:00 a.m., Washington, D. C., 12:00 n.n., Cincinnati 3:30 a.m., Indianapolis 7:00 a.m. Arrive Chicago 12:00 n.n. The sleepers are of the latest Pullman pattern, equal to any running on any line.

A CORN doctor says that if people walked more they would not have corns. If they didn't have to walk so much they wouldn't care for corns.—Washington Democrat.

The Truth About Kansas.

No State in the union has been more slandered than Kansas. The western part of the State is as fine grazing country as the sun ever shone on, and the eastern 200 miles square raised more corn to the acre in 1896 than any other State in the union. With only the eastern part of the State raising corn and wheat the State ranks fifth in these cereals in this country. We have more churches and schools and less illiteracy per capita than any other state. Productive smooth farm land can be bought for from $5 to $40 per acre. Write to R. B. DRURY, Atchison, Kansas.

THERE is nothing that makes a good woman's heart so swell with pride as to have her pastor notice her absence from church.—Atchison Globe.

To Get Out of the Way

When trouble is coming, is obviously the part of common sense. An obstruction of the bowels is a serious obstacle to health. To get this out of the way is an easy matter with the thorough laxative, Hostetter's Stomach Bitters, which, although it affords relief, never gripes and convulses like a drastic purgative. Dyspepsia, malarial, kidney and rheumatic ailments and nervousness yield to this genial family medicine.

THERE seems to be nothing people enjoy talking about so much as a married couple that don't get along very well.—Washington Democrat.

The Most Unique Calendar of the Season

Has just been issued by the Lake Shore & Michigan Southern Ry. Copy can be secured by sending six cents in stamps to cover postage, to A. J. SMITH, G. P. A., Cleveland.

THERE is an unwritten law among women that no woman should go further from home than two blocks with a shawl over her head.

No-To-Bac for Fifty Cents.

Over 400,000 cured. Why not let No-To-Bac regulate or remove your desire for tobacco. Saves money, makes health and manhood. Cure guaranteed, 50c and $1.00, all druggists.

EVERYONE who doesn't have to light the fires in the morning preaches against using coal oil for that purpose.

THE pain that tortures—sciatica. The cure that cures it—St. Jacobs Oil.

GOOD breeding is doing nothing needlessly that one thinks will hurt or displease others.—N. Y. Weekly.

SORE and stiff from cold; don't wait and suffer; use St. Jacobs Oil and get cured.

MOST young married couples begin housekeeping with hope and misfit wedding presents.—Atchison Globe.

JUST try a 10c. box of Cascarets candy cathartic, finest liver and bowel regulator made

A SHORT absence quickens love, a long absence kills it.—N. Y. Weekly.

A SPRAIN may cripple but St. Jacobs Oil will cure it before it can. It cures.

OUR happiness is but an unhappiness more or less consoled.—N. Y. Weekly.